Appendix A
SUMMARY OF BIOLOGICAL IMPACTS

A.1 INTRODUCTION

The City of Riverside contracted with Pacific Southwest Biological Services, Inc. To conduct a biological survey of the Box Springs Industrial Park Specific Plan Study Area as part of the Environmental Impact Report for this project. Copies of the original report, entitled "Report of a Biological Survey of Box Springs Specific Plan Study Area", dated October 25,1992 are available for public review upon request a the Planning Department, third floor, City Hall, 3900 Main Street, Riverside, CA. 92522. Following is a summary of the major points in this biological survey, including a description of existing conditions, expected impacts and recommended mitigation measures.

A.2 EXISTING CONDITIONS

The biological survey was conducted by R. Mitchell Beauchamp, Msc., consulting botanist, and Stephen J. Montgomery, Msc., consulting zoologist, by means of on-site inspection on 6 separate occasions over the period of 8/27/82 to 10/9/82. Although not all portions of the site could realistically be given detailed inspection, all major canyons, rock outcrops, woodlands and open habitats were, however, scrutinized at close range.

A.2.1 BOTANY

Two native plant associations occur on the Box Springs Industrial Park Specific Plan Study Area, namely, Inland Sage Scrub and Riparian Woodland (see figure A-1). Inland Sage Scrub is represented by California Sage Brush, Sand-Aster, Deerweed and Flat-top Buckwheat. Riparian Woodland is found in Sycamore Canyon as a result of perennial waters and is characterized by the Willow, Cottonwood and Sycamore trees. Aside from existing stands of Riparian Woodland and Inland Sage Scrub, a majority of the site has been disturbed by agriculture and fires. The following is an estimate of the relative proportion of various vegetation categories on site:

Cultivated	53%
Disturbed	8%
Inland Sage Scrub	27%
Riparian Woodland	12%
Total	*100 %*

One hundred thirty total plant species were observed on-site with about 30% of this total being non-native. The list would be expected to be about 20% larger if conducted from Spring Survey. No rare, endangered, threatened or otherwise sensitive plant species were observed or are known

to exist on-site. Two sensitive species, Caulanthus simulans and Dudleya multicaulis, could occur on the site and, if present, would be discovered during a Spring survey.

A.2.2 ZOOLOGY

Amphibians and Reptile

No amphibians were detected during the present survey. Five amphibian species are known from the area, however, and may occur on-site during less dry periods of the year. Seven species of reptiles all common to Southern California have been observed on the site with about 22 other species known for the region also likely inhabit the site.

Birds

A total of 57 bird species have been observed on and immediately adjacent to the site or are contained in other reports for the area. A total of at least 75 species were observed on-site, including one eagle, two hawks, two falcons, one harrier, one kite, and three owls. Over half of the observed on or immediately adjacent to the site. Among these, the Stephens Kangaroo Rat is of primary importance in the study area because it is classified as rare by the California Department of Fish and Game. A discussion of the results of a trapping survey conducted for this species is provided in the section below entitled "Sensitive Animal Species". Distinctive among other observed species, primarily because of their large size and relative scarcity, are the predatory coyote, bobcat and badger.

Sensitive Animal Species

Table A-1 lists the sensitive species observed or expected on or immediately adjacent to the site. Included in this table are the primary habitats used each species, its sensitivity status and expected effects of future projects on its populations.

Particular attention was given to the status of the Stephen's Kangaroo Rat on-site since, as noted above, this species is classified as rare by the California Department of Fish and Game. Figure A-2 indicates trapping locations and Stephen's Kangaroo Rat habitat areas. The survey conducted on-site was in opinion of the consulting zoologist sufficient to determine the general status of this species on-site. The highest numbers of Kangaroo Rats were captured, and otherwise indicated by signs, in the western portion of the site, wherever the terrain is relatively level and not recently cultivated. Fewer were captured east of Sycamore Canyon, since, most of this level area is now or has recently been under cultivation.

A.3 EXPECTED BIOLOGICAL IMPACTS

Following this summary of generally expected long-term direct and indirect biological impacts associated with development of the study area:

- Direct loss or reduction in size of existing habitats and wildlife populations whenever development or grading occurs.
- Surrounding undeveloped terrain will be affected to varying degrees disturbances related to development, such as noise and people.
- Reduced open area which serves as important hunting grounds for raptors and other predators.
- Potential for fragmentation of presently extensive habitat, which can lead to lower species diversity of some species in the area. A general reduction in habitat in the region, representing a small but overall cumulative loss, which over time, and when combined with similar small losses elsewhere, results in a large and significant reduction in habitat region.
- Ground dwelling wildlife movement onto or away from the site may be blocked or impeded by developments.
- Shifting of the existing multihabitat fauna to one emphasizing one or another habitat (e.g., only riparian fauna) by concentrating development in one habitat.
- Invasion onto the site or increase in density of certain species that are well adapted for cohabitation with humans.

Impacts to the Rare Stephen's Kangaroo Rat

The impact of any type of development of resident Stephen's Kangaroo Rat populations are straightforward. If a colony occurs where earth must be either cultivated, graded or covered by pavement or buildings, all rodents in this area will be eliminated. Adjacent to commercial or industrial sites, if kangaroo rat habitat is not directly disturbed, populations should continue to exist.

A.4 RECOMMENDATIONS TO REDUCE BIOLOGICAL IMPACTS

Following this summary of general and specific recommendations designed to reduce or, where feasible, eliminate the impacts discussed in the previous section.

General Recommendations

1. Preserve as much as possible of natural habitats on-site in their present or an improved state.

   Figure A-3 illustrates the habitats considered to be of primary importance to the greatest number of wildlife species.

   Figure A-4 illustrates the area recommended for exclusion from development for biological reasons.

   This latter area represents a compromise between development concerns and the preservation of habitats of greatest importance to area wildlife. As can be noted from Figures A-4 and A-5 the area proposed as biological open space generally coincides with the boundaries of the Sycamore Canyon Open Space land use designation. However, as discussed in greater detail later in the recommendations for the Stephen's Kangaroo Rat, in those areas proposed for biological open space, which are also planned for industrial park uses, site investigation by a qualified biologist should be required prior to any development (see discussion, page A-8). Such areas are indicated on Figure A-5 as "areas open space non-overlap".

2. Confine approved developments to the smallest possible area; that is, disturb as little habitat as possible on and surrounding project sites.

   Clustering of structures and associated developed areas should serve to accomplish this. The city should, therefore, adopt a policy of encouraging cluster development adjacent to sensitive wildlife habitats in the Box Springs Industrial Park study area as shown in Figure A-3.

3. Do not destroy the continuity of riparian woodland or other continuous habitats by developing in their centers. Instead, try to place development at the edge of a habitat, or away from riparian habitat altogether. The exception would be a road crossing.

   As a matter of policy, any proposed development in this area should be designed so as to minimize conflict with areas identified as Riparian Woodland on Figure A-1. Implementation of this policy should occur via a plot plan review process.

4. Exclude sizable areas of all existing uncultivated vegetation types from development, including sage scrub, open field and riparian vegetation. This will allow for the continued existence on-site of a variety of species restricted to these particular habitats.

Preservation of the area proposed as biological open space on Figures A-4 and A-5 would be sufficient in this regard. As discussed in #1 above and later in specific recommendations for the Stephen's Kangaroo Rat, a field inspection by a qualified biologist should be required in "areas of open-space non-overlap" as identified on Figure A-5.

5. Restrict commercial and industrial development to flat areas away from canyons. Encircle commercial and industrial areas with chain link fence, to limit wandering into adjacent habitat. This will reduce impacts of development of wildlife area.

   As a matter of policy the City should encourage fencing of development in this area in accordance with the intent of this recommendation.

6. The closer the approach to riparian habitats, especially Sycamore Canyon, the sparser should be all types of human improvements or developments.

   A policy encouraging clustering of development as described in regard to #2 above should serve to further the intent of this recommendation.

7. Do not allow construction, grading or other disruptive activities near raptor nest sites as identified on Figure A-6 between February 15 and July 15. A buffer zone of at least 150 meters radius should allow breeding to proceed. Disturbance should not occur on or near nests in canyons during breeding season.

   No development is proposed to occur on or near these sites, since, they are identified as being within the Open Space land use designation associated with Sycamore Canyon. Other measures intended to protect these nesting sites should also be considered at such time as the actual development of Sycamore Canyon Park is proposed.

Specific Recommendations

1. Activities such as the use of firearms, bow and arrows or off-road vehicles should be prohibited on the site.

   Such activities are generally not legal within the City of Riverside.

2. Pets should not be allowed to roam freely on the site.

   This is not likely to occur, however, since no residential development is proposed.

3. Fires should either be disallowed or strongly controlled.

   Open fires are generally not permitted in the City, and, where permitted, are strictly controlled by the City's Fire Department.

4. Vehicles should be restricted to unimportant habitats, away from riparian vegetation, major ridgelines, peaks and Kangaroo Rat inhabited fields. One or two narrow crossings through the riparian habitat might be acceptable in the shallower sections of Sycamore Canyon (see Figure A-3).

   Adoption of the recommended biological open space area (see Figure A-4) should serve to implement this recommendation. As noted in General Recommendation #1 above, the proposed biological open space area generally coincides with the boundaries of the open space land use designation.

   In the "areas of open space non-overlap" (Figure A-5), a survey by a qualified biologist should be required prior to any development. This matter is discussed in greater detail in the section regarding specific recommendations for the Stephen's Kangaroo Rat. (See page A-8).

5. Pest (rodent) control programs are advised, since they would likely negatively impact Stephen's Kangaroo Rat if they were conducted on flat terrain.

   The City has no authority to restrict the use of such programs on private development within the area, however, no pest control programs should be implemented on public properties in this area as a matter of policy.

6. If trial systems are developed, they should not occur on the floor of Sycamore Canyon north of the point where the Metropolitan Water District's Mills Filtration Plant runoff enters the creek (Point A, Figure A-3). Trails in this area should follow higher elevations above the canyon wall or along higher ridgelines. Most of such a trail system would occur in the adjacent Sycamore Canyon Specific Plan Study area; therefore, a more complete discussion of trials contained in the biological report for that area.

The reason for excluding trails from the bottom of the northern part of the canyon is to preserve some measure of isolation for the more sensitive wildlife in the area. This issue should be considered at such time as the Sycamore Canyon Park is to be developed.

7. Pollutants from industrial or commercial complexes should not enter the Sycamore Canyon water system.

   All disposal of liquid wastes will be through a sanitary sewer system pursuant to City and Water Quality Control Board standards and are not expected to enter any natural drainage systems.

8. Cluster developments in field habitats to avoid impacts to Stephens' Kangaroo Rat population and preserve greater areas of open terrain for raptors and other animals.

   As previously noted, the City should adopt a policy of encouraging cluster development adjacent to sensitive wildlife habitat areas in the Box Springs Industrial Park as shown in Figure A-3.

9. Plant site-native or non-invasive low-water use trees in open habitats.

   The landscape use of such plant material will avoid contamination of native plant communities by aggressive, non-native plants, especially in the woodland habitat. Further, the use of plants with low water requirements will mean less water demand of future developments and the chance of survival of landscaping without irrigation. The proposed specific plan includes policies encouraging the use of drought resistant landscaping in the study area of drought resistant landscaping in the study as well as recommended plant materials suitable to the area (see section 2.3).

10. Nest boxes in trees would possibly increase the density of certain hole nesting in open parts of the site lacking appropriate nest cavities.

    Applicants should be encouraged to install nest boxes in on-site trees. The City should also investigate a program of installing nest boxes in future street trees within this area.

11. As general guideline, development should be excluded from all drainages containing willows (Salix sp.) or other well developed woodland, since, wildlife diversity tends to be higher in these types of habitats. Most, but not all of these drainages, are shown in the primary vegetation map (see Figure A-1) or in the primary sensitive wildlife habitat map (see Figure A-3). Field inspection of proposed development sites by a person knowledgeable in the identification of riparian vegetation would allow for the precise location of structures outside such drainages.

    The City should review all proposed development within existing drainage features to

ensure that riparian habitats are adequately protected. This policy could be implemented through the City's plot plan review process.

12. The native Juniper shrubs in the study area should be left standing to preserve this outlier of a vegetation into the coastal region.

    To address this concern, applicants should identify all existing trees and shrubs on initial plot plan submittals for required Design Review Board review. All reasonable efforts should be made to preserve, either through design or by relocation on-site, if necessary, all native Juniper shrubs.

Recommendations for Stephens' Kangaroo Rat

Preservation of populations of the Stephen's Kangaroo Rat necessitates the exclusion of their habitats from development. Since total exclusion of development in on-site habitat suitable for the Kangaroo Rat is unreasonable, partial exclusion is recommended. Figures A-4 and A-5 indicate the area proposed as biological open space, which is deemed necessary to preserve a reasonable proportion of known Stephen's Kangaroo Rat habitat and existing populations within study area. As proposed boundaries of the Sycamore Canyon Open Space land use designation with the exception of two separate areas now indicated on the proposed Specific Plan for Industrial Park land uses identified in Figure A-5 as "areas on open-space non-overlap". One of these lies along the westerly edge of Sycamore Canyon, while the other is situated between the two major forks of the Canyon at its upper elevations. In order to protect Kangaroo Rat populations within these two areas, the City should establish a policy requiring on-site investigation by a qualified biologist as development on individual parcels is proposed. Recommendations of the biologist regarding measures necessary to protect existing Kangaroo Rat populations should be required in the design and construction of individual development proposals. The biologist should be required to present on site at least during the initial site preparation stage, to ensure the Kangaroo habitat is not disturbed.

12/22/82

TABLE A-1
Sensitive Species Observed on or near the Box Springs Industrial Park SPA

Common Names	Primary Habitat Used	Status On Site	Official Status	Project Impact
Badger	Open fields	Unknown; may but probably does not inhabit the site	None, but rarely found in surveys in Southern California	Reduce or eliminate population
Bewick's Wren	Scrub, riparian vegetation	Common	Blue List (d)	Reduce population size
Black-tailed Gnatcatcher	Shrub vegetation	Fairly Common	Blue List (d)	Reduce or eliminate population
Bobcat	Scrub, riparian and rocky areas	Present in unknown densities	Under review by CDFG (c) for protected designation	Reduce population
Burrowing Owl	Open fields cultivated graded banks and where ground squirrel burrows are present	Resident	Remsen (e) Priority II	Possible enhancement
Cooper's Hawk	Woodlands with open fields	Periodic visitor may but probable does not nest	Remsen (e) Priority III	Reduce hunting area
Coyote	Dens in isolated canyon burrows	Dens and hunts	None	Eliminate use of den sites
Golden Eagle	Open field hunting; rock outcrop perches	Periodic visitor	Fully protected Remsen (e) Priority III	Reduce hunting area; less use of perches
Granite Night Lizard	Granitic outcrops	Unknown	Depleted (b)	Reduce population
Loggerhead Shrike	Open fields with available perches	Common	Blue List (d)	Reduce population size
Prairie Falcon	Open field hunting, rock outcroppings	Periodic visitor no scrapes seen	Remsen (e) Priority III	Reduce hunting area
Ringtail	Rocky areas near water	Unknown	Fully Protected (c)	Little if any
San Diego Horned Lizard	Shrub habitats	Unknown, likely residents	Depleted (b)	Reduce or Eliminate
Stephens Kangaroo Rat	Open level fields with sparse vegetation	Common at sporadic colony sites	Rare (c)	Reduce or eliminate populations unless protected
White-tailed Kite	Open field hunting cultivated or uncultivated riparian nests and perches	Probable year-round resident probable nester	Fully protected (c)	Reduce nest sites or hunting areas

TABLE A-1 (cont'd)

Future projects are expected to cover extensive areas of ground with various buildings, roads, parking lots and other features. All of these will reduce wildlife habitat and densities of existing species to some degree. Naturally, the more areas developed the greater the habitat loss and the more extreme the listed expected impacts on wildlife.

(b) International Union for Conservation of Nature and Natural Resources (1979)

(c) California Department of Fish and Game Listing

(d) Audubon Society Blue List, Tate & Tate (1982)

(e) Remsen (1977)- Species of special concern

Section **A.2.2** discusses various listings of animal sensitivities by various agencies and groups.

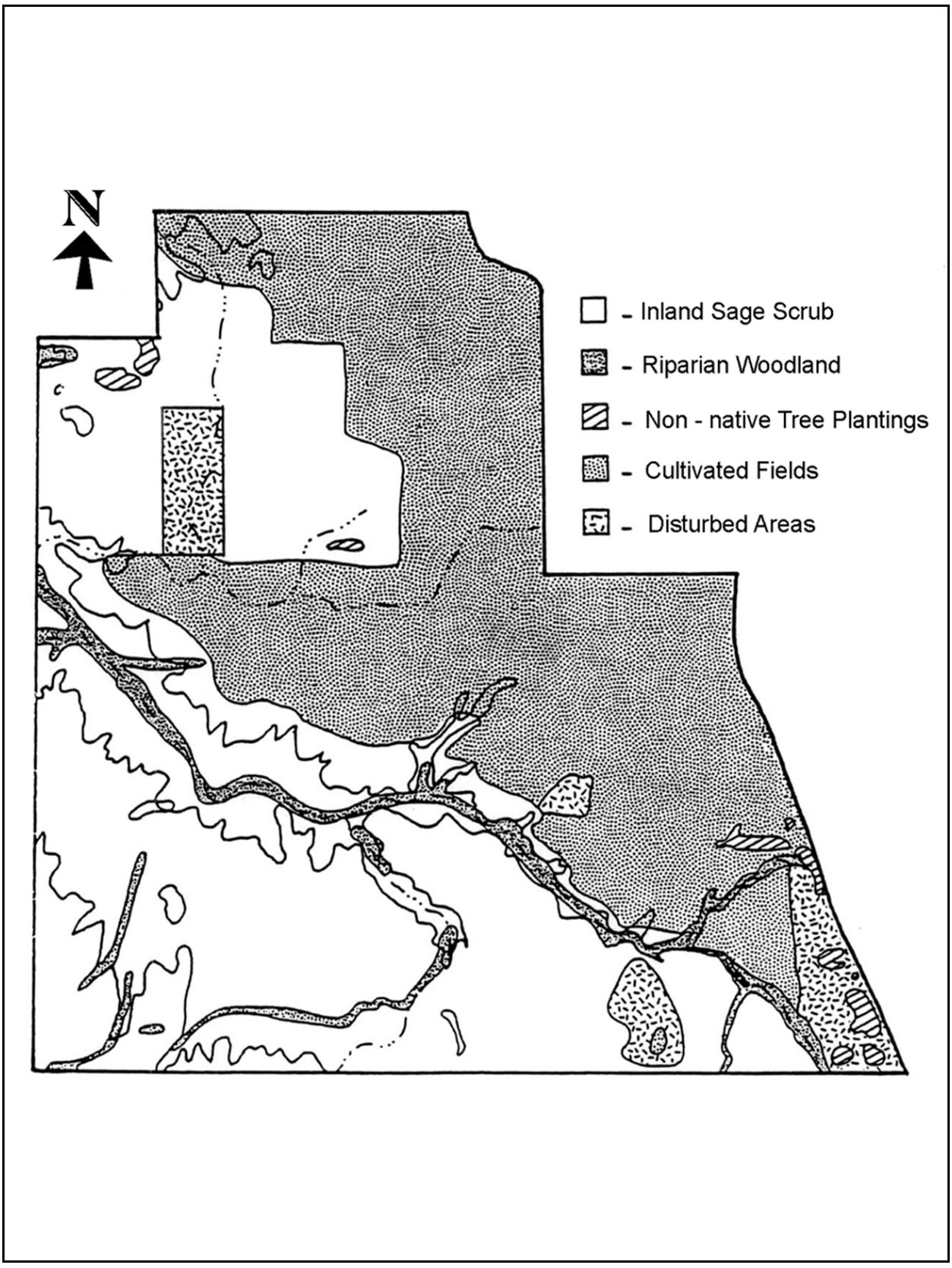

Figure A-1 Vegetation Map - Box Springs Industrial Park SPA

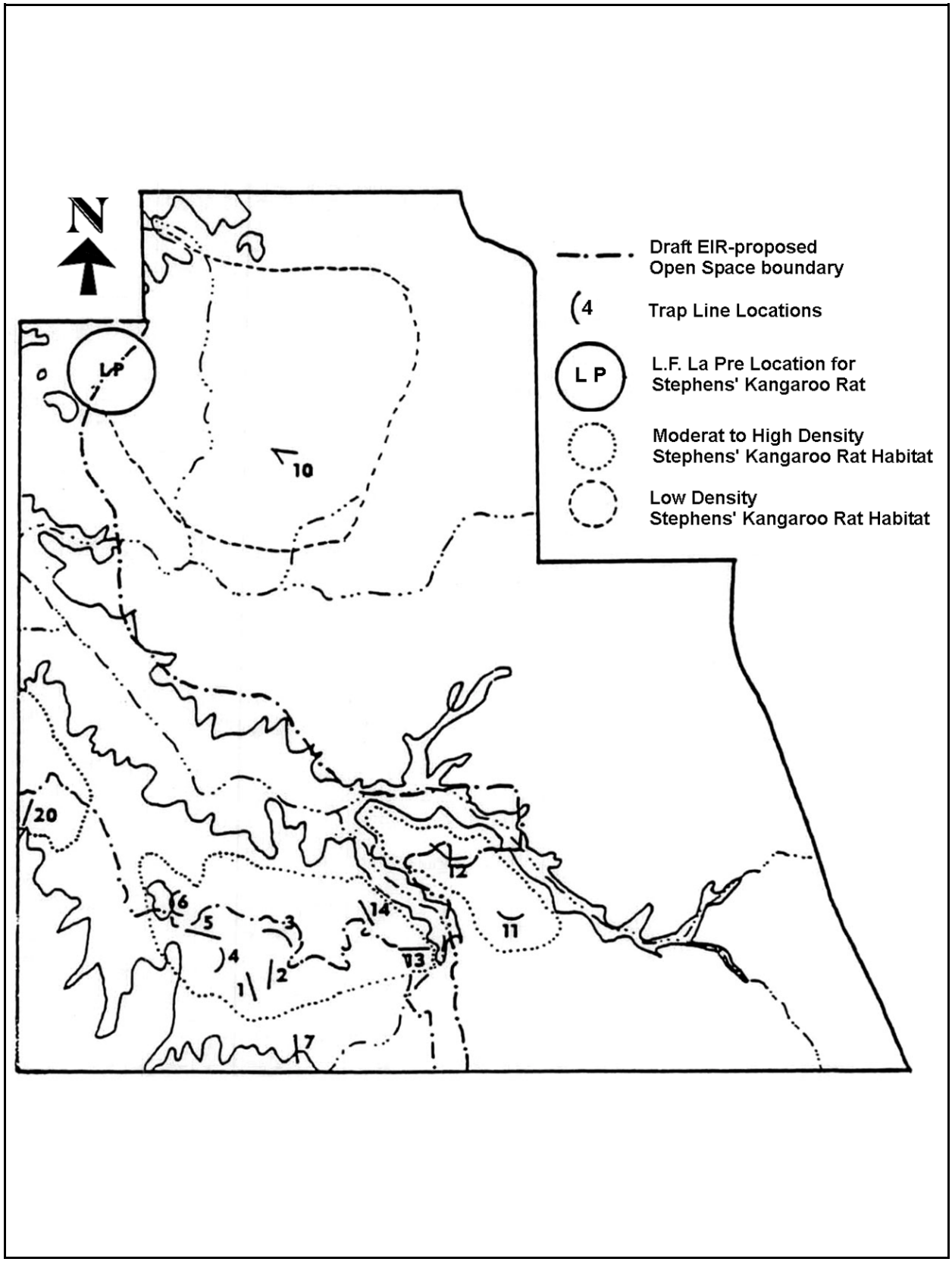

Figure A-2 Stephens' Kangaroo Rat Trapping Locations and Habitat Areas

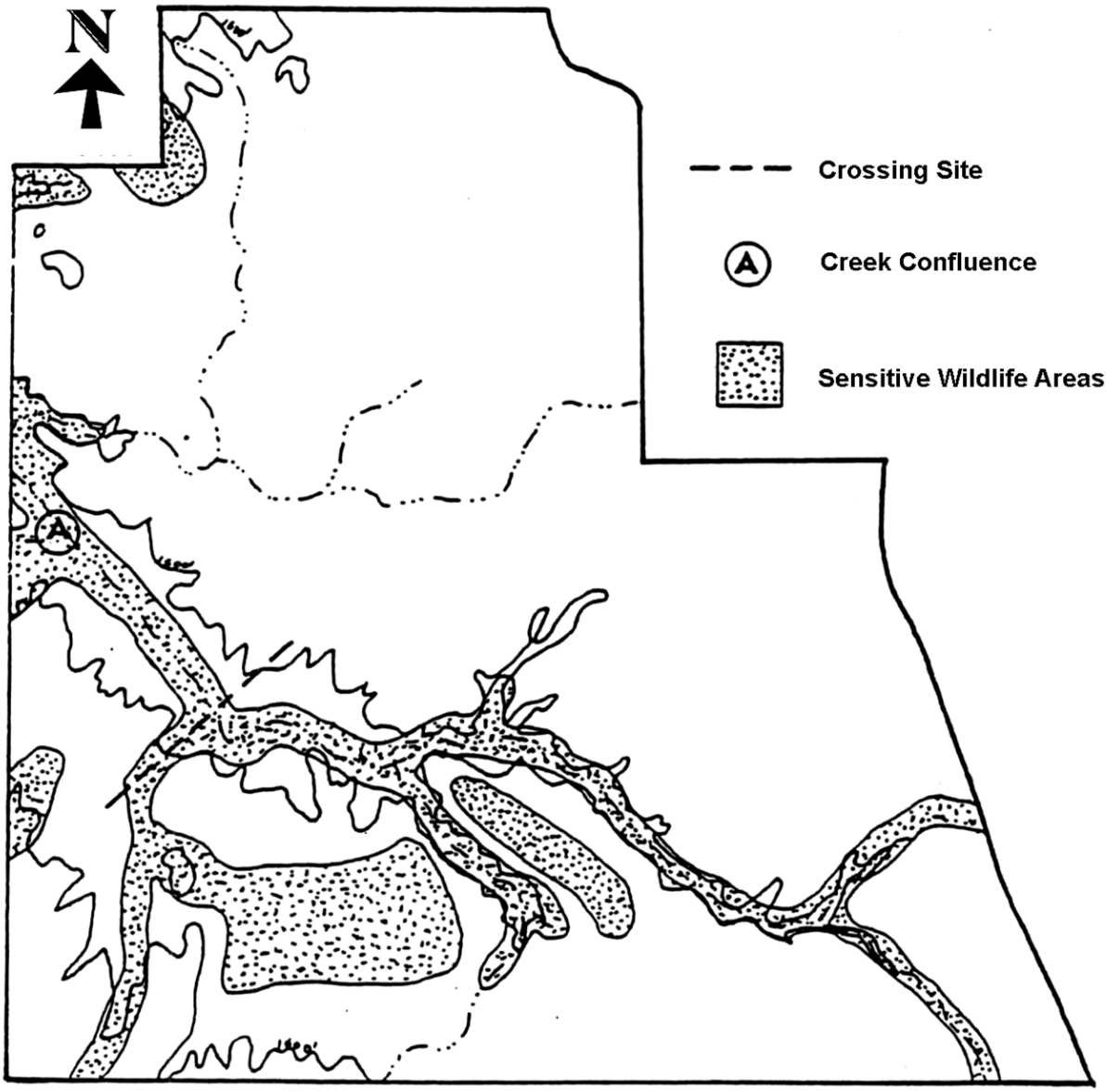

Figure A-3 Primary Sensitive Wildlife Habitat Areas, Box Springs Industrial Park SPA

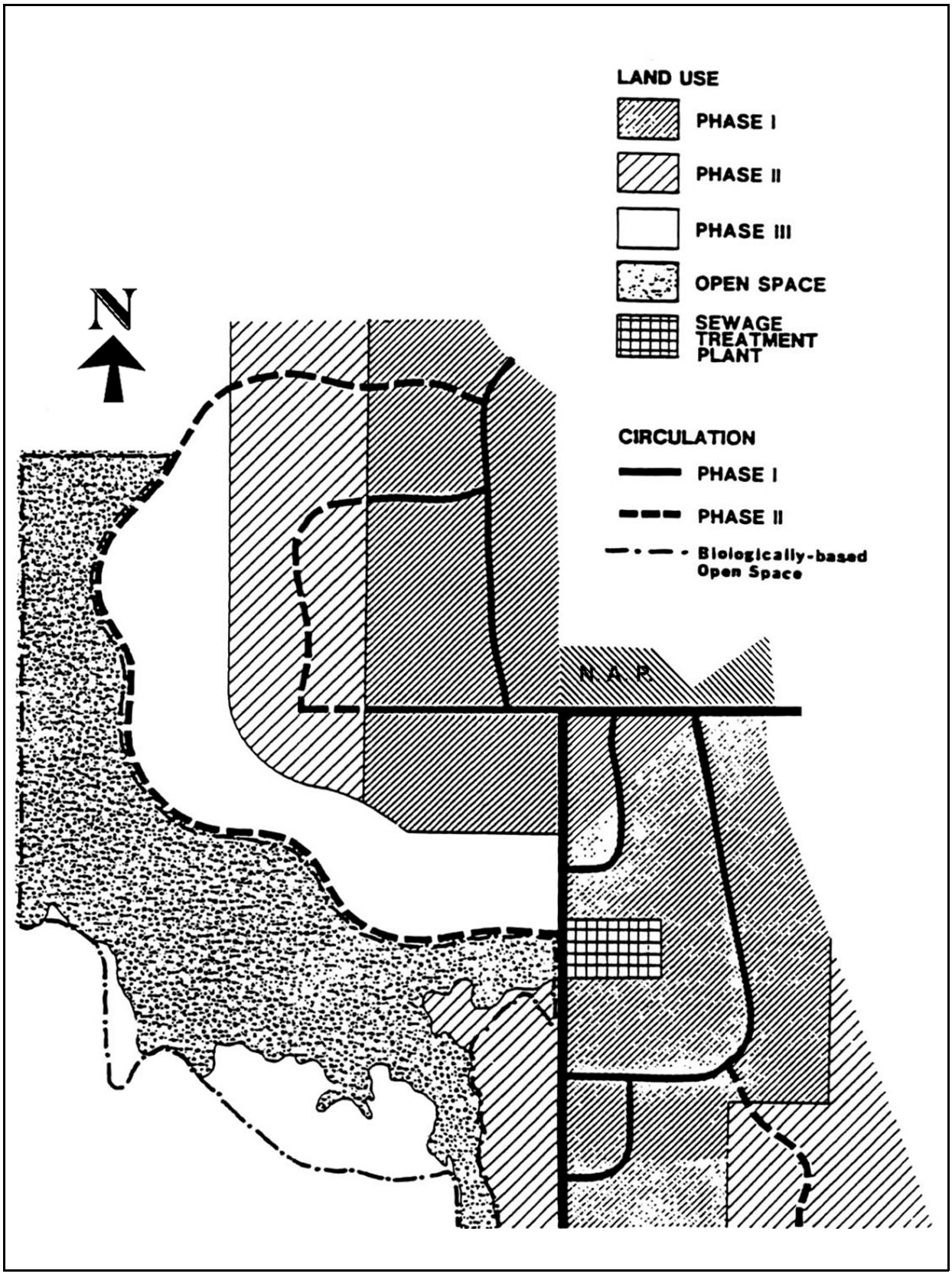

Figure A-4 Proposed Biological Open Space and Development Exclusion Areas

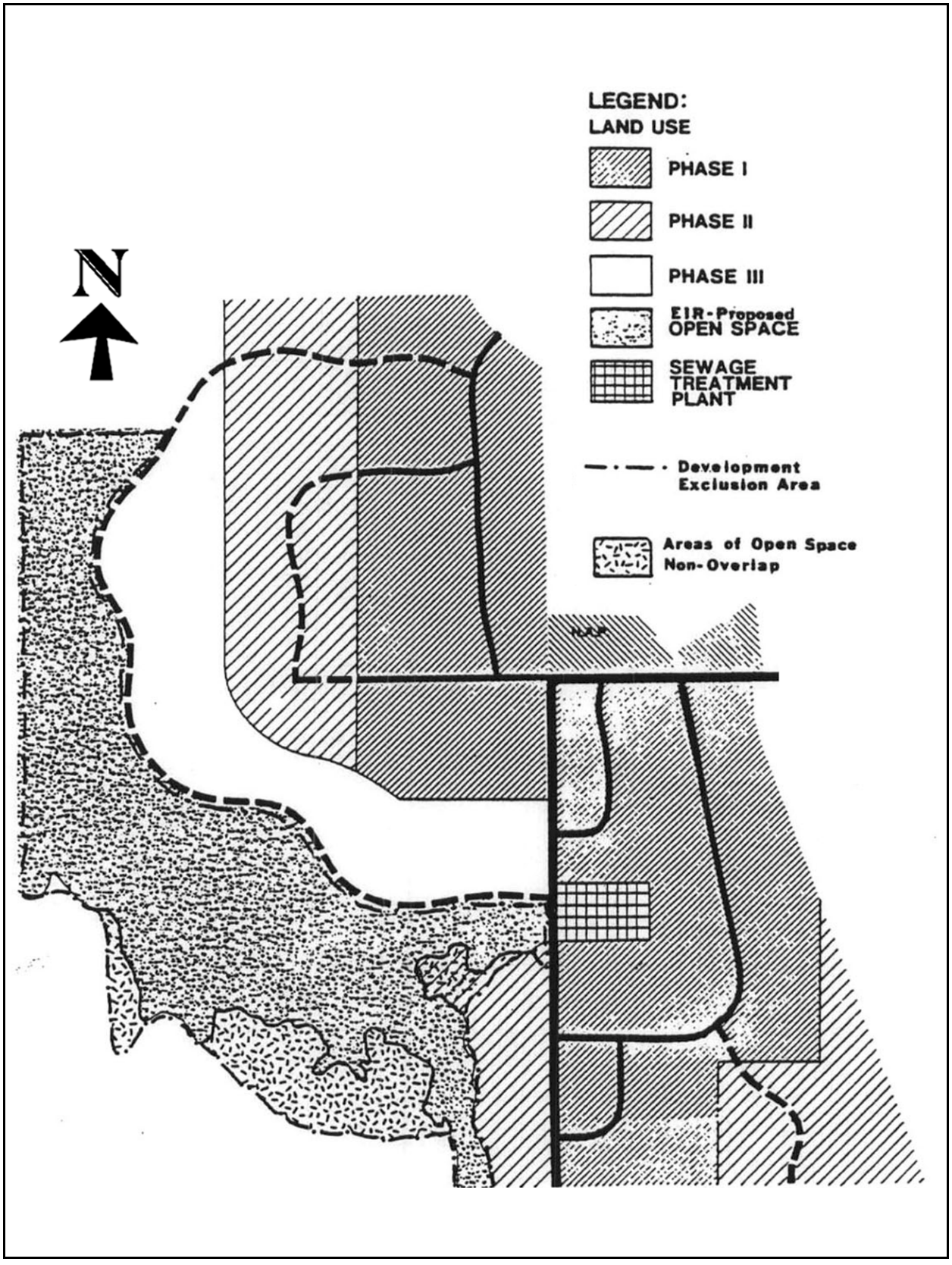

Figure A-5 Differences in Areas proposed as Open Space and Biologically Sensitive Areas

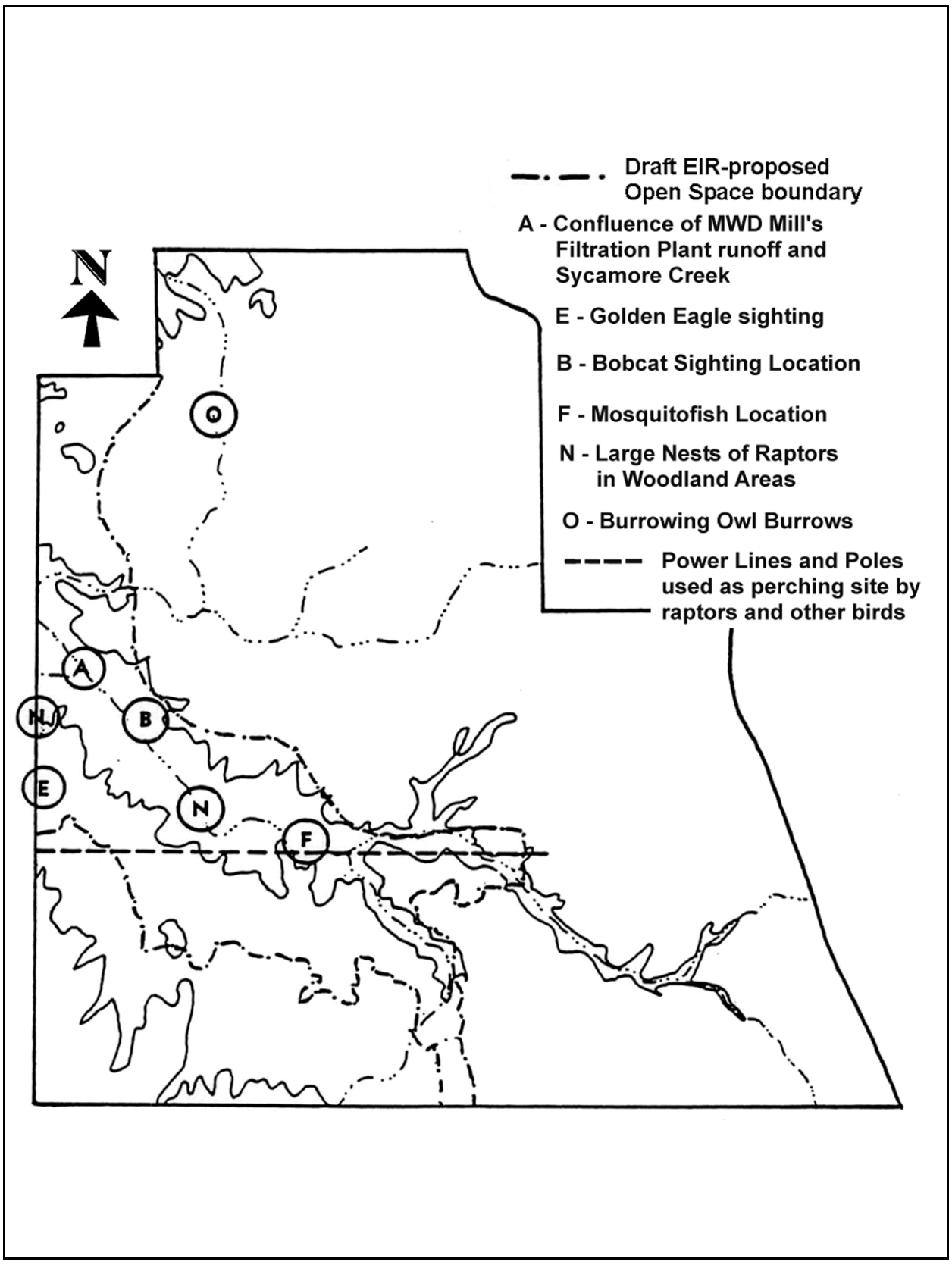

Figure A-6 Wildlife Features of the Box Springs Industrial Park SPA